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(124782 U.S.)ABSTRACT OF THE DISCLOSURE

A process for hydrotreating a hydrocarbon feedstock (1) involving the use of at least one hydrotreatment, particularly hydrodesulfurization, reactor (2) and a fractionation unit (3), which latter contains two distinct injection zones (4,5) for the hydrocarbon feedstocks, a common zone (8) of vaporization of the light fractions and two distinct draw-off lines (6,7) for the liquid bottoms;

- the hydrocarbon feedstock (1) being subjected to a preliminary treatment either in a first hydrodesulfurization reactor (20) the operating conditions of which (P, T, LHSV) may be different from those of the hydrotreatment reactor (2), or in a sweetening apparatus or else in a sulfur trap,

- the hydrocarbon feedstock being then injected into the first injection zone (4) of the fractionation unit (3),

- the liquid bottoms being removed through the draw-off line (6) of the injection zone (4) and passed into a hydrotreatment reactor (2),

- the effluents from said reactor (2) being injected into a second injection zone (5) of the fractionation unit (3),

- the light fractions leave the common zone (8) through an evacuation line (11), and

- the heavy liquid bottoms of the second injection zone (5) being removed through the corresponding draw-off line (7). Also apparatus for carrying out this process.